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ABSTRACT

Replicating previous research on tracking done in the U.S., this study examines the determinants and effects of curriculum tracking (college bound or vocational) in urban and kibbutz schools in Israel. The purpose of the investigation was to examine the process of curriculum tracking in a classless society where assignment to tracks is based entirely on merit. The analysis shows that in the kibbutz, tracking is not associated with adverse effects on self-evaluation, access to motivated peers, or school orientation, but it has a considerable impact on academic achievement. In the urban Israeli schools curriculum placement not only affects achievement, it has a strong impact on self-evaluation and school orientation. The reason for this difference may be that urban students, unlike rural students, carry on almost all their interaction in school. Curriculum differentiation that coexists with structures that allow for more intertrack interaction may avoid some of the undesirable consequences of tracking. (Author/JM)

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CURRICULUM TRACKING: SOME OF ITS CAUSES AND CONSEQUENCES UNDER A MERITOCRACY

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Abstract

The study examines the determinants and effects of curriculum placement in samples of urban and kibbutz schools in Israel. The purpose of the investigation was to examine the process of curriculum selection in a classless society where assignment to tracks is based entirely on merit. The analysis shows that in the kibbutz tracking is not associated with adverse effects upon self-evaluation, access to motivated peers or school orientation. However it has a considerable impact on academic achievement.

Recent attempts to consider structural constraints in the social organization of schooling have focused on the effect that curriculum tracking has on the degree of access to educational resources. These studies have shown that being enrolled in a college or a noncollege track has a significant effect on academic performance, self esteem, educational goals, and academic orientations, often independently of individual and background characteristics. (Alexander and Eckland, 1974; Alexander and McDill, 1976; Heyns, 1974; Hauser, et al., 1976; Rosenbaum, 1975; Alexander et al., 1978). The idea that curriculum enrollment might have wide-ranging implications for students is hardly a novel one. However, only recently has the question of the dynamics of selection into curricula, and the consequences of such selection for a number of educational outcomes, received a thorough treatment.

The most recent and comprehensive of these inquires are the studies by Alexander and McDill (1976) and Alexander et al (1978). Since the present paper extends and refines their observations in several respects, we first briefly review their findings.

Alexander and McDill first analyzed the effect of social background and other demographic characteristics on enrollment in a college-preparatory track. They observed that social class background has a substantial effect on curriculum selection, almost as large as measured ability. In terms of the consequences of track placement, they found that it has a direct effect on academic achievement, as well as on academically related, noncognitive outcomes of schooling: college plans, self-conceptions of academic competence, and intellectual orientations of the student.

The Alexander and McDill study is among the first attempts to study the process of curriculum sorting in a comprehensive model which succeeds in delineating direct and indirect effects of background on curriculum assignment and its impact on school outcomes.

Alexander, et al. (1978) address many of the issues raised in earlier research on high school tracking, focusing on determinants of curriculum tracking and its effect on school outcome. Using a longitudinal design, the investigators go beyond previous curriculum effect studies introducing pre-curriculum enrollment controls which enable them to make a convincing argument that curriculum effects cannot be accounted for by advantages existing prior to curriculum placement. The study also considers a more inclusive set of educational outcomes than have prior studies. In addition to outcomes such as academic achievement and social supports provided by significant others, the investigators show that being in a college track increases the probability of applying to college and enhances one's prospects for being admitted. In these ways, curriculum placements substantially affect later socioeconomic attainments.

One of the main observations underlying the above studies as well as previous ones is that, while ability, achievement, and educational aspirations determine curriculum placement, a major proportion of the variance in placement is left unexplained by these factors. Other criteria significantly alter the probability of being placed in a college-bound track. Among those a most important factor is the socioeconomic background of the students. Although direct socioeconomic ascription in track placement is almost negligible, it is widely documented that higher status students are disproportionately represented in college preparatory curricula, and

that most lower class students are assigned to non-college prep, general, or basic tracks, even though some of them qualify for placement in the academic track. (Jones et al., 1972; Alexander et al., 1978) These findings tend to support the critics of tracking, who maintain that since there is a considerable socioeconomic bias in the process of selection, curriculum placement benefits advantaged students and discriminates against those who are most in need of resources such as motivated peers, motivating teachers and counselors, and curricula which will prepare them for college should they have college aspirations. Moreover, since placement in a college bound track enhances achievements and goals, the advantages accruing to students in these tracks are cumulative: their background and academic achievement increase the probability of enrollment in a college-bound track, which in itself provides access to better academic resources. (Alexander et al., 1978)

The considerable slippage in the process of curriculum sorting makes any attempt to study the determinant of track assignment and its effects on academic outcome both tentative and incomplete. Factors unrelated to measured ability may determine track assignment and consequently will influence a student's academic achievement and future career. However, this is an inherent limitation in any study on tracking in a society other than in an efficient meritocracy, where performance and ability would be the sole criteria for assignment.

The purpose of this study is to examine curriculum assignment and its effects, in a comprehensive model using a longitudinal design, in a system where the extent of slippage in the process of curriculum sorting is minimal. It is our intention to examine several of the cognitive and

subjective dimensions studied previously and thereby clarify the process of curriculum assignment.

The present project examines the process of tracking in a population quite unusual for tracking research, a population of students in secondary schools of the Kibbutz movement in Israel, where social class differences are minimal (Nachmias, 1977a). As a comparison, groups of students from urban schools in Israel are investigated as well. The research assesses the effect of class, ability, and past performance on curriculum assignment, and the differences in cognitive skills, self evaluation, orientation towards schools, and college plans between college-bound and non-college bound students.

STRUCTURAL DIMENSION OF ISRAELI EDUCATION--CITY AND KIBBUTZ

At the time of the present study the Israeli structure of education* consisted of three main levels: primary education, junior high, and secondary school. At the end of the primary school level, students are administered aptitude tests and on the basis of these tests and their performance in the last year of primary school, they are assigned to either "academic" type of high school, or an academic track in a comprehensive school, or to a vocational school or track. The academic schools or tracks prepare their students for higher education. This is reflected both in the quality and content of the curricula. The other tracks are chartered to prepare their students for a vocational or technical career. The few studies that examined curriculum tracking in

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*Higher education is not discussed here.

Israel found that students with low socioeconomic background and of an Asian-African origin were disproportionately represented in vocational tracks. However, studies on the effect of tracking on school outcomes resulted in quite tentative conclusions (Ministry of Education, 1974; Nachmias, 1977a).

Tracking in the Kibbutz has always been more problematic than in urban schools. Since its early days and up to the middle fifties, the Kibbutz held to an educational philosophy that dictated standard education for all children. This was reflected both in a minimal degree of specialization and by an objection to any selection during the educational process. This conception prevented, of course, any type of homogeneous grouping either on the basis of ability or curriculum. Moreover, since a very small minority of Kibbutz members went to college, any distinction between college bound and non-college bound tracks was meaningless.

This educational philosophy derived from the Kibbutz's strong belief in social equality reflected in its stratification structure. Economic differentiation is absent in the Kibbutz, and while differences in power and prestige are present, most researchers have not found evidence of crystallized social classes or monopolization of elite positions by any particular group (Talmon, 1956; Cohen, 1974; Nachmias, 1977a). This pattern of educational training was also adequate for the Kibbutz's relatively simple economic structure where only minimal specialization was required.

Recent developments in the Kibbutz are characterized by increased differentiation and specialization of occupations which accompanied the rapid industrialization of the Kibbutz economy. This trend increased

the demand for qualified manpower with vocational training as well as with college education. The changes have affected the Kibbutz's school system which became more differentiated along curriculum and ability lines. The school adopted specific goals such as providing vocational training as well as pre-college training. The Kibbutz's junior and high school of today incorporates various homogenizing structures in the form of academic vs. vocational tracks. Assignment is based primarily on measured ability and performance on tests.

THEORETICAL MODEL

Figure 1 presents the model underlying the present analyses for

Figure 1 about here

the urban and Kibbutz samples. Socioeconomic background and ethnic origin are exogenous, and pre-enrollment performance and ability are treated as endogenous to these background variables and are hypothesized to affect later curriculum enrollment. Ethnic origin is included in the model since this distinction underlies significant differences in the values and attitudes held among the social groups and strata constituting the Israeli society. These differences also affect the assignment of students to tracks. Curriculum selection which has been made prior to the time the study took place, mediates the effects of prior variables upon friends' educational expectations, parents' expectations and the student's educational expectations. This in turn affects performance, as well as subjective perceptions, self evaluation and academic orientations. While other arrangement among the variable might be assumed, this pattern

is consistent with evidence from various studies. (Alexander and Eckland, 1974; Sewell and Hauser, 1975; Alexander and McDill, 1976) The model is fully recursive between blocks -- all prior variables directly affect all later ones. Variables within blocks are not causally related, but have correlated structural disturbances. Ordinary least square regression was used to estimate the equations.

Sample

Data for this study were obtained through an extensive questionnaire survey (in 1975) of 400 sophomores and juniors in three urban high schools, 350 sophomores and juniors in three regional high schools of the Kibbutz movement, and 250 sophomores and juniors in two agricultural schools. Due to the focus of the study, only the urban and Kibbutz populations were included in the analysis (750). Economic considerations prevented the gathering of a truly national sample, but an attempt was made to ensure that the major factors associated with school attainment in Israel were represented. Respondents were distributed among various demographic categories in approximately the same proportion as they exist in the larger population.

All students in the classes selected were interviewed. The response rate was 97 percent. Two sources of data were used in the analysis: (1) a questionnaire administered by trained research assistants during a class period to all students in the class; (2) information obtained through school records.

Variables

Parents' Education

Information on father's and mother's education was obtained from the questionnaires administered in the classrooms. Five precoded response categories, ranging from "some grade school" to "graduate school/post-college professional school," were provided in the student questionnaire.

Father's Occupation - Urban Sample

This was assessed by using the Duncan socioeconomic index score with an adjustment to the Israel society (Yuchtman and Fishelson, 1972).

Father's Occupation - Kibbutz Sample

Since the range and type of occupations as well as the status accruing to them are somewhat different for the Kibbutz, separate measures were constructed to assess the occupational prestige of fathers in the Kibbutz. Information of father's occupation, obtained from the respondents, was used for the following occupational classifications: (1) central positions and professionals - e.g., general manager, treasurer, manager of factory, manager of agricultural branch, economic planner; (2) education - e.g., school teacher, kindergarten teacher; (3) industry and agriculture - regular workers in industry or agriculture; (4) services - e.g., cook, mechanic. These four categories used in previous studies (Ben David, 1975; Cohen, 1974; Nachmias, 1977b) are ranked according to their degree of prestige and power.

Ethnic Origin

Respondents were classified into the following categories: (1) Orientals (those whose parents come from Near-Eastern and North African countries); (2) Westerners (parents immigrated from European and American countries.)

Ability - 8th Grade

Information on 8th grade ability score was obtained from school records. The test used was the Miltha test, a standard intelligence test developed in Israel (Ortar and Moriel, 1966). The test and the interpretation of its scores are similar to group IQ tests used in the United States.

Performance - 8th Grade

This is a combined measure of "relative" performance of students in three subjects: Mathematics, Hebrew and English. It was obtained from school records, and is expressed in percentile form.

Curriculum Enrollment - 10th Grade

This is self reported. Students were classified into either (1) academic (college-bound) track; or (2) all other programs.

Student's Educational Expectation

Student's educational expectation was measured with the item "How far do you actually expect to go to school?" The question was coded using three categories: college, vocational or technical school, high school only.

Friend's Educational Expectation

The respondent's best friend's educational expectation was coded using three categories: college, vocational or technical school, high school only.

Parents' Educational Expectation

The item was constructed by summing the following two items:

(1) "How frequently does your father encourage you to go to college?"

(2) "How frequently does your mother encourage you to go to college?"

(frequently, infrequently, never).

Self-Evaluation

Self evaluation is measured by a five items Likert scale. All items referred to the respondents' feelings about themselves, and ranged from one to six, with one representing the higher evaluation of oneself and six the lowest. The scale was highly correlated with another measure of self-evaluation in which the respondents were asked to compare themselves with their classmates with regard to their academic ability.

School Orientations

Ten items designed to measure school orientation covered the following dimensions: (1) The students' assessment of the degree of support they receive from teachers and staff. (2) To what extent the students view the school as playing a role in preparing for their future. (3) To what extent the students perceive of the school's policies and code of behavior as fair to them. The items were factor analyzed, using the principal component method. Four items, with a loading on the first factor (with iteration) of less than 0.25 were eliminated. The items selected were summed after standardization co construct a composite scale of school orientation. The resultant scale has a reliability of .79 as defined by the omega coefficient (Heise and Bohrstedt, 1970)

Results

Since the purpose of the investigation is to study the difference in the effect of track allocation between Kibbutz and urban schools, variation between Kibbutz schools or between urban schools were of no interest in the present context. To eliminate between school differences in each group, a procedure was adopted (Heyns, 1974; Alexander and McDill, 1976) which entails the expression of respondents' scores as a deviation from their school means (for each variable in the analysis). This procedure assumes an additive model and hence involved the estimation of a common slope for all schools in each group. The test for additivity was accomplished by a comparison of the sum of squares accounted for when slopes vary from school to school, with that obtained with a common slope. This comparison revealed only slight interaction and thus only insignificant departures from additivity.

The parameters implied by Figure 1 are estimated through path analysis. For calculation of total direct and indirect effects, we employ the method of successive reduced form equation estimation (Alwin and Hauser, 1975), which estimates total and direct effects in the model, and assesses indirect effects by simple subtraction. Table 1 presents the reduced form and structural equations for the urban sample. The first equation for each endogenous variable estimates the reduced form coefficients (total effects) for father's education, mother's education, father's occupation and ethnic origin. Subsequent equations add intervening variables in the order implied by the model. For example, the second equation for variables subsequent to 8th grade ability and performance add these variables to the set of regressors in

the first equation. The parameters of 8th grade ability and performance in the second set of equations stand for the total effect of Pre-Curriculum enrollment indicators upon subsequent variables. Similarly, the third set of equations for variables subsequent to curriculum enrollment add curriculum enrollment to the set of regressors in the first 2 equations. The final (structural) set of equations for each variable includes all the variables preceding the variable in question, as implied by the stages of the model. A comparison of parameters obtained in succeeding set of equations for each endogenous variable, indicates the extent to which effects are mediated by intervening variables. For instance, changes in the status origin coefficient across succeeding equations reflects the mediation of background effect through pre-enrollment characteristics, curriculum enrollment and the set of educational expectations variables.

Our discussion will focus upon the mechanisms affecting curriculum placement and the effects of curriculum upon later achievements and orientations. The results are presented in Tables 1-2. Table 1 reports on the urban sample. Table 2 analyzes the model for the Kibbutz group. Throughout we compare the coefficients for the Kibbutz and urban samples. Due to the slightly different measures employed in the two groups, only the standardized coefficient are compared. A table of raw coefficients is available upon request from the author.

The Determinants of Curriculum Enrollment

Tables 1 and 2 about here

In the urban sample, the exogenous background characteristic have a moderate total effect on pre-enrollment ability and performance. Eighteen

percent of the variance are explained by these variables in ability and 13% in performance. Father's status characteristic has a stronger effect than the mother's education. However both parents' status characteristics have a slightly stronger effect than the ethnic origin of the student.

In the reduced form equation of curriculum enrollment all background variables are significant determinants of curriculum placement, together accounting for 19% of the variance. The most significant factor is ethnic origin, with a total effect of .176. However, with the inclusion of pre-enrollment ability and performance in the structural equation of curriculum placement, these effects are reduced considerably. Father's education and occupation and mother's education are reduced by about 50%. Thus, about half of the influence of socioeconomic background on curriculum placement is accounted for by 8th grade ability and performance. Eighth grade ability and performance induce an impressive 17% in the variance explained in curriculum placement, independently of all social background factors taken together.

Ethnic origin has a substantial direct effect upon curriculum placement (.118). Moreover only a third of the total effect of this variable is accounted for by ability and performance. The importance of ethnic origin in determining educational opportunity has been noted before. In a study of the educational attainment process, Yuchtman and Samuel (1975) found ethnic origin a significant predictor of educational achievement. This factor often determines access to college, independently of social class background.

In the Kibbutz, background characteristics* have no influence on pre-enrollment characteristics except for a slight effects of parents' education on ability. Similarly, in the reduced form equation of curriculum enrollment, none of the background variables has a significant total effect; together all background variables account for only 6% of the variance in placement. Eighth grade ability included in the structural equation has a substantial effect upon curriculum enrollment considerably larger than in the urban group. Eighth grade performance, however, has only a modest effect upon curriculum placement (.102), less than one fourth of the ability effect. These results provide some insights into the educational processes in the Kibbutz. The earlier years of schooling are quite informal and grades, when used at all, are rarely treated as a scarce resource. This can be confirmed by the relatively high mean and low standard deviation on this variable (appendix). Thus, 8th grade performance is not as reliable a predictor as ability which is based on a standardized test, administered state wide through the Israeli Ministry of Education. Secondary education though is much more formalized in the Kibbutz and grades are consistently used to evaluate and rank students.

Turning back to the structural equation of curriculum placement we observe that pre-enrollment ability and performance uniquely account for 24% of the variance in curriculum enrollment (compared with a unique contribution of 17% in the urban group).

These results point to some interesting differences in the mechanisms of track placement in the two populations. In the urban sample, the results

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*Ethnic origin is not included in this group, due to the ethnic homogeneity of the Kibbutz population. Most residents of Kibbutzim in Israel have a Western or Eastern-European origin. In our sample 98% of the Kibbutz students are of Western or Eastern European origin.

suggest that to a large extent, middle class students tend to be placed in college bound track, due to their higher ability and performance scores earlier on. Alexander, et. al. (1978) report a similar finding for a national American sample. The effect of ethnic origin, however, is not mediated by earlier ability and performance. Youth with a North African or Middle Eastern background (orientals) are frequently placed in vocational tracks even though their ability and performance qualify them for college bound tracks or academic schools. Other factors not considered in this study, such as earlier motivation and social support, may account for this process.

The results observed in the Kibbutz group support our earlier contention that the process of curriculum allocation in this system is almost entirely meritistic. Students are allocated to the various tracks on the basis of their earlier ability and performance and ascribed factors have no bearing on this process.* These results indicate that the extent of slippage in curriculum placement in the Kibbutz's educational system are indeed minimal.

Curriculum Effects

In the following section our discussion will focus on the effects of curriculum placement on eleventh grade outcomes. To what extent does tracking affect cognitive and subjective outcomes? What are the differences in its effect on the two populations examined in this study? The first set of outcomes discussed are the students' educational expectations, their best friend's expectations, and their parents' support for higher education.

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* It should be noted that with the variables included in the curriculum equation only 39% of the variance in placement are explained. Other variables not considered here might account for the remaining unexplained variance.

It is assumed that the extent of others' expectations is an educaitonal resource enhancing or retarding opportunities for post-secondary schooling. In the second part of Table 1 and 2 we are concerned with the effect of curriculum enrollment on these expectations variables.

In the urban schools, the effects of social background observed in the reduced form equations of the expectations variables are modest and mostly significant (Table 1). Ethnic origin displays the largest total effect upon all three variables. With the inclusion of 8th grade ability and performance, the background effects are reduced, though not substantially. Ability and performance induce an additional 5 to 12% explained variance in these variables.

The structural equations of individual's peer's and parents' educational expectations reveal a fairly strong curriculum effect. College track enhance the chances of receiving parents' support for post-secondary education and having college oriented friends. Similarly it increases the level of the students' expectations of themselves. It is observed that in each of the structural equations, curriculum has the largest direct effect, and that its inclusion in the equation increases the explained variance by 6 to 9%. Moreover, the effects of pre-enrollment ability and performance is accounted for by curriculum enrollment. Their effect is reduced by over 50% with the inclusion of curriculum in the structural equation. As observed earlier, the only variable whose effect is reduced only slightly is ethnic origin which seems to have a fairly large and independent effect on expectations.

Table 2 presents the results for the Kibbutz sample. The curriculum effects displayed in the structural equations are negligible. The single

most important determinant of individual and parents' expectations are prior ability and performance which seem to have an especially strong effect on the student's own expectation. Having college oriented friends is independent of either one's background or any of the school related variables. Apparently, the choice of friends in the Kibbutz adolescent society is not determined by any of the variables traditionally considered in attainment or tracking research. The inclusion of curriculum in the structural equations has not increased the explained variance by a significant amount in any of the equations (approximately 1%). On the other hand, the inclusion of 8th grade ability and performance has induced an additional 11 to 26% explained variance.

Finally, in the last portion of Table 1 and 2 we present the effect of curriculum placement upon 11th grade achievement, and the student's self evaluation and school orientation. First, we note that background factors, in particular, account for only 15% of the explained variance in 11th grade achievement among urban youth. The inclusion of 8th grade ability and performance in the second equation increases the explained variance by 8%. In the third reduced form equation we observe a pronounced impact of curriculum placement upon achievement. Moreover, about 20 to 30% of the effect of ability and performance upon 11th grade achievement are accounted for by curriculum membership. This may be assessed by comparing the coefficients of these variables in the second and third equations for 11th grade achievement. It is noted that the ability and performance coefficients are reduced by about 20 to 30%.

Turning now to the structural equation of achievement, we examine the extent to which the curriculum effect is mediated by the three expectation

variables included in this equation. The direct effect of these variables on achievement is negligible. The increment of R^2 is less than one percent over the preceeding equation, and the earlier parameter of curriculum effect is only slightly affected. Is is interesting to note that the curriculum effect observed here is largely independent of any advantages occuring to college track students by virtue of their high status background or access to high goal oriented peers.

This confirms previous studies (Alexander and McDill, 1976; Alexander et. al., 1978) which have shown a considerable impact of curriculum placement especially upon math performance.* These findings suggest that the structure of academic curriculum does enhance achievement, which is independent of ability or earlier performance. Alternatively it is possible that the grade distribution in non-academic tracks is negatively skewed, even after controlling for other factors such as background and ability. In other words, grades, treated as a scarce resource, are distributed unequally between academic and non-academic tracks. Thus, students in vocational tracks are not rewarded for their educational pursuits, at least not to the same extent as their peers in the college bound tracks.

Turning now to Table 2 and the corresponding equations, we once again note the negligible effect of social background upon achievement, contrasted with the marked influence of ability and performance. It is observed that the inclusion of ability and performance in the second equation has increased the explained variance by 29%.

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*It is noted that the score of achievement used here is a combined measure of verbal and math achievement. Alexander, et.al., (1978) found little curriculum effect on verbal achievement, but a significant one on math performance.

Turning to the third reduced form equation of 11th grade achievement, we observe a pronounced impact of curriculum enrollment, larger than in the urban group. A comparison of the 8th grade ability and performance coefficients in the second and third equations, shows a reduction of about one fourth to one half with the inclusion of curriculum placement in the equation. This reduction suggests that the effects of 8th grade ability and performance are mediated by curriculum allocation.

Finally, it is noted that the addition of the three expectation variables to the model (last equation) has little import for the curriculum parameter which is reduced only slightly. Moreover, the inclusion of these variables results in an increment of only one percent in the explained variance in achievement.

The last two sets of equations in Table 1 and 2 deal with two subjective outcomes; self evaluation and school orientation. We observe that in the urban sample the total curriculum effects are marked, and are consistently larger than any of the other coefficients in the equations. Moreover, a comparison of the background and ability-performance coefficients in the second and third equations reveal that they are reduced considerably with the inclusion of curriculum placement in the third equation. This implies that social status and academic-performance affect self evaluation and school orientation by providing access to college bound curriculum.

The extent to which the total curriculum effect is mediated by the set of expectation variables may be assessed by comparing the third and fourth equation for self evaluation and school orientation. It is observed that about 30% of the reduced form curriculum effect on evaluation and

45% of its effect on school orientation is accounted for by the tendency of college track youth to have high educational expectations, to associate with peers who have college plans, and to receive considerable parental support regarding their future educational plans. This set of variables uniquely account for 4-5% of the variance in self evaluation and school orientation.

An entirely different pattern is observed in the Kibbutz sample. Here the curriculum effect upon these subjective outcomes are negligible, and account for less than two percent of the variance. Moreover, this slight effect is mediated by the set of expectation variables. A comparison of the third reduced form equation and the structural equation for both self evaluation and school orientation reveals a substantial reduction in the curriculum parameters. The single most important factor in explaining self evaluation and school orientation in the Kibbutz seems to be the student's own educational expectation (.093 and .102). However it is noted that the entire set of explanatory variables accounts for only 10 and 11% of the variance in self evaluation and school orientation respectively. This compares with 21 and 20% explained by these variables in the urban sample. It seems that at least in the Kibbutz, other factors not considered here account for this set of subjective outcomes.

Summary and Conclusions

The objective of this study has been to compare the process of curriculum selection in an urban stratified society and in a social system characterized by minimal stratification and a strong ideology of equality and opportunity. Specifically, we have attempted to determine (1) the extent to which curriculum placement is determined by socioeconomic background, performance

and ability; and (2) the cognitive and subjective outcomes of such placement.

Our analyses show that in urban schools in Israel, socioeconomic origin clearly facilitates educational opportunities by providing access to academic curriculum. However, the social class bias does not operate independently of differential achievement. The principal determinants of curriculum assignment are early ability and performance, and although background is related to placement, its effect is mediated by differential achievement. The only exception is ethnic origin which was shown to effect curriculum placement almost independently of ability and performance. It is clear that students of oriental origin are assigned to vocational tracks even-though some of them qualify for placement in the academic track. It is plausible that other factors not accounted for in this study, such as counselors bias or students' motivation, explain the disproportionate representation of orientals in non-academic tracks.

The introduction of 8th grade ability and performance to the model explicates the mechanism of curriculum selection in the secondary school. However, even with control of these factors, the direct effect of curriculum placement upon 11th grade outcomes is marked. In urban schools, academic curriculum provides access to college oriented peers, enhances the students' educational expectations and their parents' support of future educational plans. Moreover, curriculum placement has a strong impact on 11th grade achievement as well as on self evaluation and school orientation. These effects are substantial even after controlling for socioeconomic status and prior ability and performance. The results observed here support findings of recent studies on tracking conducted primarily in the U.S.

(Heyns, 1974; Alexander and McDill, 1976; Alexander, et. al., 1978). Despite differences in their educational systems, the process of curriculum differentiation in Israel (urban) and the United States are quite similar.

Yet, the process of curriculum assignment and its outcomes cannot be generalized to the Kibbutz population. The findings for this group provide some interesting insights into the effect of curriculum differentiation in a system where assignment is based on ability, and where social class effects are negligible. Curriculum differentiation in the Kibbutz has a substantial effect only on the cognitive outcome of schooling: on achievement. Students in non-college tracks have as much access to academically oriented friends as their peers in the college bound track. Moreover, being in non-college tracks has no adverse effects on the student's self evaluation, or their school orientation.

The results obtained for the Kibbutz sample provide some support for the arguments advanced by the proponents of curriculum differentiation. They maintain that the more able students should be provided access to an enriched learning environment, where they would benefit from the more advanced level and the faster pace at which they are encouraged to progress. Less able students, on the other hand, are being taught at a level appropriate to their ability. Both their performance and self evaluation improve in a learning environment which is geared to their needs and where they do not have to compete with more able students.

The findings for the urban sample, however, lend some support to the critics of tracking who argue that students in vocational curriculum are denied access to motivated students and to an environment supportive of

academic endeavors. They are looked upon as inferior, suffer from low self esteem, and fail to develop orientations which will enable them to achieve their potential.

The study cannot resolve the conflict between these fundamental positions. However both the similarities and the differences between the two populations observed here are not only enlightening but may have some implications for educational planning.

First, the findings for the two populations point to a process of social selection operating within the school system which structures educational attainment through curriculum differentiation. Placement in an academic curriculum and the educational environment and experiences it provides does enhance achievement, over and above what one would expect on the basis of ability and previous performance. This observation holds both for a situation where assignment to tracks reflects socioeconomic inequalities, as well as when assignment is based strictly on merit. In the urban schools, socioeconomic origin clearly facilitates educational opportunities by providing access to academic curriculum. However since the socioeconomic effects are almost entirely mediated by ability and performance, even an efficient meritocracy would not have altered the disproportional representation of middle class youth in academic tracks. In the Kibbutz, where achievement related criteria are the major basis for assignment, curriculum placement remains a significant institutionalized mechanism for social selection. In other words, in the city inequalities created by differential curriculum are cumulative: advantaged socioeconomic background provides access to college tracks which enhance achievement and educational goals. In the Kibbutz, while opportunities are not stifled by one's social back-

ground, the school system does not provide equal opportunities to all students.

The issue of tracking underlies a basic conflict between the choice of an efficient differentiated structure and an open system providing equal opportunities for all. These different practices reflect two different perceptions: contest mobility versus 'sponsored mobility.' (Turner, 1960) Sponsorship is reflected in the educational system by selection procedures at an early stage in an attempt to create congruency between ability and training. In contrast, in a contest mobility system, students are allowed to participate in all educational programs regardless of their performance so that they can compete for higher education throughout the schooling process.

Obviously these two ideologies are not easy to reconcile and whether support is given to one or the other would depend on whether one believed that scarce resources should be allocated to the most able. Our kibbutz study shows that even in the nonstratified kibbutz system which adheres to a contest ideology, a sponsorship method of stratification and selection has been institutionalized by the school system as a response to increased specialization and complexity of the society.

Finally, it is the difference observed in the outcomes of curriculum placement which is especially noteworthy. In the Kibbutz, curriculum placement is not associated with any of the adverse effects that have been noted by previous studies as well as observed in this investigation (among the urban population). Differential tracking in secondary schools in the Kibbutz, while introducing academic inequalities, is not detrimental to interpresonal relations. Interaction and communication between school mates usually cut across tracks. Kibbutz youth spend most of their time

with their peer group, and their interaction is less likely to be structured by the school. Thus, placement in a vocational track does not prevent association with peers in academic tracks, neither does it create a feeling of inferiority or necessarily result in a negative school orientation.

In contrast, for urban students, the school provides most of the opportunities for interaction with class mates. Thus, a differentiated curriculum puts a barrier between students in vocational and academic tracks. This separation is even more severe due to the socioeconomic correlates of tracking.

The differences in the outcomes of curriculum placement observed here are, to an extent, a result of the inherent differences between the city's and the Kibbutz's social system. However, they do suggest that curriculum differentiation which co-exists with structures that allow for more inter-track interaction, may avoid some of the undesirable consequence that have been documented by previous studies.

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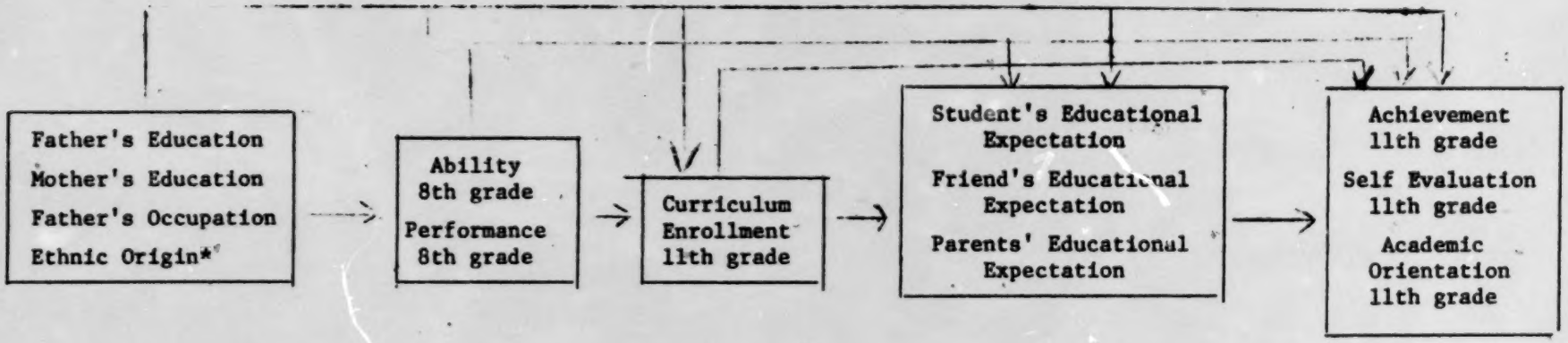
Appendix

Table A. Mean and Standard Deviation for Variables included in the Model for Urban and Kibbutz Samples

Variables	Urban		Kibbutz	
	Mean	Standard Deviation	Mean	Standard Deviation
Father's Education	10.21	2.16	11.12	1.26
Mother's Education	9.12	2.34	10.92	1.15
Father's Occupation	36.91	16.75	3.12	0.98
Ethnic Origin	.56	.50	--	--
Ability - 8th grade	98.12	15.26	102.31	10.36
Performance - 8th grade	75.46	15.54	87.27	5.18
Curriculum Enrollment	.55	.50	.60	.50
Student's Educational Expectation	1.82	0.72	2.01	0.73
Friend's Educational Expectation	1.21	0.31	1.93	0.64
Parents' Educational Expectation	1.81	0.38	1.89	0.56
Achievement - 11th grade	77.13	12.71	79.33	10.24
Self Evaluation - 11th grade	2.46	1.28	2.81	0.98
Academic orientation - 11th grade	3.62	0.913	3.03	1.21

Figure 1: Model of Track Placement and its Determinants-
Urban and Kibbutz Samples



*Only for urban sample

Table 1

Coefficient estimates for the reduced form and structural equations of curriculum placement model - Urban sample

Dependent Variables	Independent Variables										
	Father's Education	Mother's Education	Father's Occupation	Ethnic Origin	Ability 8th grade	Performance 8th grade	Curriculum 10th grade	Student's Educational Expectation	Friend's Educational Expectation	Parents' Educational Expectation	R^2
Ability 8th grade	.201*	.186*	.221*	.172*							.181
Performance 8th grade	.181*	.096*	.191*	.141*							.134
Curriculum 10th grade	.121*	.099*	.121*	.176*							.191
"	.061	.048	.064*	.118*	.211*	.324*					.360
Student's	.102*	.098*	.011	.162*							.196
Educational	.099*	.061	.001	.110*	.177*	.210*					.324
Expectation	.060	.040	.001	.099*	.109*	.160*	.189*				.401
Friend's	.021	.061	.098*	.184*							.128
Educational	.001	.042	.086*	.162*	.099*	.100*					.179
Expectation	.001	.036	.076	.099*	.001	.032	.197*				.243
Parents'	.141*	.127*	.099*	.211*							.210
Educational	.104*	.112*	.074*	.197*	.160*	.205*					.296
Expectation	.094*	.086*	.051	.187*	.084*	.116	.198*				.361

continued

Table 1 - Continued

Coefficient estimates for the reduced form and structural equations of curriculum placement model - Urban sample

Dependent Variables	Independent Variables										
	Father's Education	Mother's Education	Father's Occupation	Ethnic Origin	Ability 8th grade	Performance 8th grade	Curriculum 10th grade	Student's Educational Expectation	Friend's Educational Expectation	Parents' Educational Expectation	R^2
Achievement											
11th grade	.120*	.096*	.126*	.196*							.151
"	.084*	.072*	.062	.123*	.327*	.368*					.230
"	.042	.031	.027	.093*	.228*	.294*	.237*				.294
"	.039	.030	.021	.069*	.207*	.286*	.225*	.046	.052	.064	.301
Self Evaluation											
11th grade	.097*	.053	.102*	.201*							.096
"	.088*	.050	.100*	.200*	.123	.160*					.124
"	.043	.025	.064*	.121*	.063	.091*	.267*				.167
"	.036	.021	.042	.099*	.054	.087*	.179*	.121*	.132*	.097*	.213
Achievement Orientation											
11th grade	.083*	.081*	.112*	.197*							.105
"	.069*	.071*	.101*	.173*	.096*	.120*					.117
"	.050	.039	.058*	.088*	.073*	.074*	.273*				.153
"	.042	.027	.041	.050	.061	.045	.152*	.168	.141*	.082*	.201

Asterisks indicate coefficients at least twice their standard error.

Table 2

Coefficient estimates for the reduced form and structural equations of curriculum placement model - Kibbutz sample

Dependent Variables	Independent Variables									
	Father's Education	Mother's Education	Father's Occupation	Ability 8th grade	Performance 8th grade	Curriculum 10th grade	Student's Educational Expectation	Friend's Educational Expectation	Parents' Educational Expectation	R^2
Ability 8th grade	.086*	.072*	.036*							.098
Performance 8th grade	.042	.058	.060							.044
Curriculum 10th grade	.041	.032	.054							.059
"	.038	.036	.052	.485*	.102*					.301
Student's	.081*	.069*	.027							.052
Educational	.041	.051	.024	.361*	.184*					.201
Expectation	.034	.046	.018	.250*	.290*	.097*				.213
Friend's	.033	.024	.041							.006
Educational	.034	.021	.052	.033	.028					.016
Expectation	.028	.023	.049	.021	.009	.058				.028
Parents'	.084*	.076*	.013							.073
Educational	.068*	.052	.011	.221*	.132*					.182
Expectation	.051	.046	.010	.181*	.123*	.068*				.186

continued

Table 2 - Continued

Coefficient estimates for the reduced form and structural equations of curriculum placement model - Kibbutz sample

Dependent Variables	Independent Variables									
	Father's Education	Mother's Education	Father's Occupation	Ability 8th grade	Performance 8th grade	Curriculum 10th grade	Student's Educational Expectation	Friend's Educational Expectation	Parents' Educational Expectation	R^2
Achievement										
11th grade	.020	.017	.004							.023
"	.021	.014	.002	.463*	.164*					.314
"	.024	.018	.005	.302*	.132*	.397*				.426
"	.020	.015	.003	.298*	.129*	.384*	.124*	.021	.046	.442
Self Evaluation										
11th grade	.069*	.042	.077*							.047
"	.063*	.039	.074*	.053	.042					.061
"	.060	.038	.060	.041	.036	.073*				.073
"	.061	.035	.049	.042	.031	.041	.093*	.032	.061	.096
Academic Orientation										
11th grade	.051	.032	.046							.036
"	.048	.031	.047	.087*	.067*					.054
"	.046	.031	.048	.060	.041	.069*				.067
"	.031	.012	.043	.052	.040	.042	.102*	.031	.096*	.113

Asterisks indicate coefficients at least twice their standard error.

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